EXECUTIVE SECRETARIAT
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		ACTION	INFO	DATE	INITIAL
1	DCI		X		
2	DDCI				
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6	DDA				
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8	DDS&T				
9	Chm/NIC				
10	GC				
11	IG				
12	Compt				
13	D/Pers				
14	D/OLL				
15	D/PAO				
16	SA/IA				
17	AO/DCI				
18	C/IPD/OIS				
19	NIO /SP		X		
20	C/ACIS		X+		
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Remarks

STAT

Executive Secretary
19 Mar 85
Date

3637 (10-81)

Pan

3/14/85

Dear Mr. Casey:

[redacted] suggested that you would be interested in this statement.

STAT

Fred Hoffman

Fred Hoffman

C128

Statement of Fred S. Hoffman

Before the

Subcommittee on Strategic and Theater Nuclear Forces

of the

Senate Armed Services Committee

March 1, 1985

The Role of SDI in US Nuclear Strategy

Mr. Chairman, members of the Subcommittee, thank you for the opportunity to present my views on the Strategic Defense Initiative (SDI). This statement and my remarks represent my personal views. I appear here neither in any official capacity nor as a representive of my employer.

As we approach the second anniversary of President Reagan's speech announcing the SDI, it is useful to review the development of the issue. Critics and supporters alike now recognize that the central question concerns the kind of R&D program we should be conducting. Virtually no one on either side of the issue, here or among our allies, contests the need for research on the technologies that might contribute to a defense against ballistic missiles, and it is clear that the Administration does not propose an immediate decision on full-scale engineering development, let alone deployment of ballistic missile defenses.

Nevertheless, the issue continues to occupy a dominant place in discussions of national security issues and arms negotiations, far out of proportion to its immediate financial impact (significant as this is), to its immediate implications for existing agreements, (current guidance limits the R&D to conformity with them) and to its near-term impact on the military balance. Reactions by the public and media in this country and among our allies, as well as the public response by Soviet leaders, suggest that the President's speech touched a nerve. Such extreme reactions to a program that has such modest immediate effect suggests that the President's initiative raises basic questions about some deep and essential troubles with the drift of NATO declaratory and operational strategy

Some who advocate this policy like to think of it as not a policy, but a "fact." A supposedly unalterable fact of nature. There is a grain of truth and a mountain of confusion in this assertion. The grain is the unquestioned ability of nuclear weapons to inflict massive, indiscriminate and possibly global destruction. The mountain is the conclusion that this is the way we should design and plan the use of nuclear forces, and even more important, the assumption that this is the way the Soviet Union does design and plan the use of its nuclear forces. The prescription for our own strategy and the assumption about Soviet strategy are not unalterable facts of nature but matters of policy choices in each country. The contrasting US and Soviet choices brought about the relative worsening of the US position.

This is not the place for a detailed critique of MAD, but a summary of its principal deficiencies is essential to assess the potential role for defenses in our strategy. A central point on which most critics and supporters of SDI agree is that the assessment of defenses depends critically on what you want them to do. And what we want them to do depends on our underlying strategy.

MAD as a strategy might have something to recommend it (not nearly enough in my view) if the tensions between the Soviet Union and the US were restricted to the threat posed by nuclear weapons. Relations between the United States and the Soviet Union have not been dominated by the possibility of border conflicts between the two countries or the fear of invasion by the other. Rather the post-World War II military competition arose from the desire of the Soviet Union to dominate the countries on the periphery of its Empire and the desire of the United States to preserve

military thought, has called their "strategic architecture." They design that architecture for the pursuit of Soviet political goals as well as military operations.

They clearly wish to dominate on their periphery and to extend their influence over time. By creating conditions that weaken ties between the United States and other independent countries they serve both ends. They clearly prefer to use latent threats based on their military power, but have shown themselves willing to use force either directly or indirectly and in a degree suited to their political goals. They regard wars, especially long and large wars as posing great uncertainties for them. Because they cannot rule out the occurrence of such wars they attempt to hedge against the uncertainties in their preparations. There is no reason to suppose that their plans for the use of nuclear weapons are inconsistent with their general approach to military planning.

From the Soviet point of view, Western public espousal of MAD is ideal. Western movement away from such a strategy based on indiscriminate and suicidal threats would increase the difficulty of Soviet political and strategic tasks. The consequences of Western reliance on threats to end civilization can clearly be seen in the increasing level of Western public anxiety about a nuclear catacylsm. While the incumbent governments among our allies have successfully resisted coercion, trends in public opinion and in the positions of opposition parties give us little reason for comfort. In the US as well, public attitudes reflected in the freeze movement will make it increasingly difficult to compete with the Soviets in maintaining parity in nuclear offensive forces. The Soviet leaders have reason to believe that the West will flag in its efforts to make up

and the survivors of Stalin, nothing in their background suggests suicidal tendencies. Certainly, their strictest ideological precepts call for the preservation of Soviet power and control. Neglect of the actual motivation of our adversaries is particularly strange in a strategic doctrine that professes to be concerned with deterrence. Despite the fact that deterrence is in the mind of the deterred, those who espouse MAD rarely go beyond the assumption that the attacker's purpose is to strike preemptively before he is attacked.

MAD doctrine takes it as axiomatic that to deter such a Soviet attack we must threaten "assured destruction" of Soviet society. A consequence of this view is that only offensive forces can directly contribute to deterrence. Defensive forces can contribute only if they are useful in protecting our missile silos and the "assured destruction" capability of the missiles in them. Beyond this ancillary role in deterrence, MAD relegates defenses along with offensive counterforce capability and civil defenses to the role of "damage limiting" if deterrence fails. But since our damage limiting capability diminishes Soviet assured destruction capability, eliciting unlimited Soviet efforts to restore their deterrent, MAD dismisses damage limiting (and with it defenses) as pointless and destabilizing.

To recapitulate, acceptance of MAD doctrine implies for SDI:

- Defenses must be essentially leakproof to be useful;
- Defenses can at best serve an ancillary role in deterring attack;
- Defenses that reduce civilian damage are inherently destabilizing.

If, instead, we replace MAD with a view of deterrence based on a more realistic assessment of Soviet strategic objectives, we arrive at a radically different assessment of the effectiveness required for useful defenses and of the appropriate objectives of the SDI R&D program. The point of departure ought to be reflection on the motives that might induce Soviet leaders and military planners to contemplate actually using nuclear weapons. The test of deterrence would come if we and the Soviet Union found ourselves in a major confrontation or nonnuclear conflict.

In such circumstances, Soviet leaders might find themselves facing a set of alternatives all of which looked unpleasant or risky. If, for example, they lacked confidence in their ability to bring a nonnuclear conflict to a swift and favorable conclusion, they might consider ensuring the futility of opposing them by a militarily decisive use of nuclear weapons. A decisive nuclear attack in this sense might or might not have to be "massive," in the sense of "very large." Its primary motivation would be the destruction of a set of general purpose force targets sufficient to terminate nonnuclear resistance. If Soviet leaders decided that the gains warranted the risks they would further have to decide whether to attack our nuclear forces or to rely on deterring their use in retaliation. The extent and weight of such an attack would be a matter the Soviet leaders would decide within the context of a particular contingency, based on their assessment of our probable responses.

The alternative risks they would face would be the prospect of nuclear retaliation to an early nuclear attack on one hand; on the other hand, those of gradual escalation of a nonnuclear conflict in scope and violence with the ultimate possibility of nuclear conflict in any case.

reduce the collateral damage from such attacks if they occur. The relevant question for the foreseeable future is not whether defenses should replace offensive weapons but whether we should rely exclusively on offensive weapons or whether a combination of militarily effective and discriminating offense and defenses will better meet our strategic requirements for deterrence and limiting damage.

This change in the criterion by which we judge defenses from the one imposed by MAD has profound consequences for the level of effectiveness required of defenses, for the treatment of uncertainty about defense effectiveness and for the terms of the competition between offense and defense. Instead of confining the assessment to the ability of defense to attain nearly leakproof effectiveness, a realistic consideration of the role of defense in deterrence recognizes that an attacker will want high confidence of achieving decisive results before deciding on so dangerous a course as the use of nuclear weapons against a nuclear-armed opponent. Analysis will show that defenses with far less than leakproof effectiveness can so raise the offensive force requirements for attacks on military target systems that attacks on limited sets of critical targets will appear unattractive and full-scale attacks on military targets will require enormous increases in force levels and relative expense to achieve pre-defense levels of attack effectiveness and confidence in the results. Because of an attacker's desire for high confidence in a successful outcome, he must bear the burden of uncertainty about defense effectiveness and is likely bias his assumptions toward overestimating it. This is particularly important for his willingness to rely on sophisticated countermeasures such as those liberally assumed by critics of the SDI.

can defend targets "preferentially." The offense would have to treat all targets as equally defended by such a concentrated defense. This greatly enhances the competitive advantage of the defense.

Another implication of the foregoing discussion is that defenses do not come in neat packages labelled "protection of military targets" and "protection of civilians." Warheads aimed at military targets will, in general, kill many collocated civilians and defenses that protect against such attacks will reduce civilian casualties. Again, in contrast to the kind of nightmare attack assumed by MAD theorists, when we consider more realistic Soviet attacks, effective but far from leakproof defenses can protect many civilians against collateral damage. If, moreover, a Soviet attack planner knows that we will protect collocated military targets more heavily and he must choose between attacking similar targets some of which are collocated and others of which are isolated, he will opt for the isolated targets if he wishes to maximize his military effectiveness (the reverse of what is generally assumed by critics of defenses). When we understand that the problem of protecting civilians is primarily the problem of dealing with collateral damage, it becomes clear that we do not need leakproof defenses to achieve useful results. The more effective the defenses, the greater the protection, but there is no reason to expect a threshhold of required effectiveness.

Another charge levied against defenses is that they are "destabilizing." The prospect of leakproof defenses is allegedly destabilizing because they present an adversary with a "use it or lose it" choice with respect to his nuclear offensive capability. Defenses with intermediate levels of effectiveness are also held to be destabilizing because they

concludes that the defenses are destabilizing. But it would be a virtuoso feat to design SDI type, multi-layered defenses that would not, willy-nilly, reduce the vulnerability of the offensive nuclear forces, and it would certainly be possible by proper design to reduce that vulnerability far enough to eliminate the so-called destabilizing effect while realizing the other benefits of defenses.

Turning next to the effect of introducing defenses on the long-term military competition, we once again encounter the charge that defenses are destabilizing. A common assertion is that the offense will always add force to overwhelm the defense with the net result of larger offensive forces and no effective protection. This stereotyped "law of action and reaction" which flourished in the 1960s and early 1970s was also supposed to imply that if we reduce defenses, the Soviets will inevitably reduce their offenses. It has no basis in theory, and it has been refuted by reality. The United States drastically cut its expenditures on strategic defense in the 1960s and 1970s while the Soviets tripled their expenditures on strategic offense. After we abandoned any active defense against ballistic missile attacks even on our silos, the Soviets deployed MIRVs for the first time and increased them at an accelerating rate. The action-reaction theory of the arms race led to some of our worst intelligence failures in the 1960s and early 1970s.

The effects of US defenses on the incentives governing Soviet offensive forces are likely to depend on the terms of the competition as they are perceived by each side. The incremental increase in effort or force size by the offense required to offset an increment of effort or force in the defense (the "offense-defense leverage") is particularly important in

limitations on nuclear offensive systems makes it increasingly difficult to foresee the possibility of agreeing to sizable reductions in the absence of defenses. One of the contributions of defenses can be to increase the ability to tolerate imprecision in the verifiability of arms limitations.

The point of view advanced here has major implications for the conduct of the SDI R&D program as well as for the criteria we should apply to evaluating its results when we approach the decision for full-scale engineering development and deployment. If we adopt the MAD view of the role and utility of defenses, and require essentially leakproof defenses or nothing then we will conduct the SDI on what has been called the "long pole" approach. We will seek first to erect the "long pole in the tent," that is, we will devote our resources to working on those technical problems that are hardest, riskiest and that will take longest and we will delay working on those things that are closest to availability. The objective of this approach will be to produce a "fully effective" multi-layered system or nothing. Unfortunately such an approach increases the likelihood that we will in fact produce nothing and it is certain that it delays the date of useful results into the distant future.

If instead, as argued here, we believe that defenses of moderate levels of capability can be useful then we will conduct SDI in a fashion that seeks to identify what Secretary Weinberger has called "transitional" deployment options. These may be relatively near term technological opportunities, perhaps based on single layers of defenses or on relatively early versions of technologies that can be the basis for later growth in system capability. Or if they are effective and cheap enough they might